

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE UPGRADE OF AN EMERGENCY SIGNAL AT THE INTERSECTION OF MD 331 (MAIN STREET) AND MAPLE AVENUE/MESSICK AVENUE IN THE TOWN OF PRESTON, CAROLINE COUNTY.

ALL EXISTING POLES AND EMERGENCY SIGNAL EQUIPMENT WILL BE REMOVED. A NEW MAST ARM POLE WITH LED SIGNAL HEADS WILL BE INSTALLED, WITH OPTICOM DETECTION FOR THE EASTBOUND APPROACH AND VIDEO DETECTION FOR THE SIDE STREET APPROACHES. VIDEO DETECTION FOR PEDESTRIANS IS TO BE PROVIDED FOR THE CROSSWALK ON THE NORTH SIDE OF THE INTERSECTION.

MD 331 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION OPERATES IN 2 PHASES. NORTHBOUND AND SOUTHBOUND MD 331 (MOVEMENTS) OPERATE CONCURRENTLY. MAPLE AVENUE (MOVEMENT) OPERATES CONCURRENTLY WITH MESSICK AVENUE (MOVEMENT). MESSICK AVENUE (MOVEMENT) OPERATES WITH FLASHING RED OPERATION DURING THE MAPLE AVENUE PHASE AND SOLID RED DURING BOTH PRE-EMPTION PHASING AND DURING MD 331 GREEN (PHASES 2 AND 6). VIDEO DETECTION IS PROVIDED FOR PEDESTRIANS TO CROSS MD 331 ON THE NORTH SIDE OF THE INTERSECTION WHEN THERE ARE NO VEHICLES PRESENT TO ACTUATE THE SIDE STREET PHASES. EMERGENCY VEHICLE PRE-EMPTION IS PROVIDED FOR THE EASTBOUND MAPLE AVENUE MOVEMENT.

A NEMA EIGHT-PHASE, FULL-ACTUATED CONTROLLER WITH VIDEO DETECTOR INTERFACE UNIT, PRE-EMPTION EQUIPMENT, AND ALL OTHER NECESSARY EQUIPMENT HOUSED IN A POLE-MOUNTED CABINET SHALL BE INSTALLED AT THE INTERSECTION.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RICHARD LINDSAY  
DISTRICT ENGINEER  
PHONE: (301) 778-3061

MR. BARRY CLOTHIER  
DISTRICT UTILITIES ENGINEER  
PHONE: (410) 810-3275

MR. JEFF WENTZ  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 810-3240

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

MR. TERRY WRIGHT  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 810-3250

MR. ED RODENHIZER, CHIEF  
SIGNAL OPERATIONS SECTION  
PHONE: (410) 787-7650

MR. SONNY BAILEY, CHIEF  
SIGN OPERATIONS SECTION  
PHONE: (410) 787-7670

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

ITEM CODE	QTY	UNITS	DESCRIPTION
9042	1	EA	NEMA CONTROLLER ASCII WITH TELEMETRY
9086	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	48	SF	SHEET ALUMINUM GROUND MOUNTED SIGNS
			2 EA W3-3 (36"x36")
			2 EA W16-7pL (24"x12")
			2 EA W11-2 (36"x36")
			2 EA W16-4 (24"x24")

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM CODE	QTY	UNITS	DESCRIPTION
1003	2	EA	MAINTENANCE OF TRAFFIC
2002	2	CY	TEST PIT EXCAVATION
5004	110	LF	5" HEAT APPLIED WHITE OR YELLOW PERM PVMT LINE MARKINGS
5005	30	LF	REMOVAL OF EXISTING PERM PVMT LINE MARKINGS ANY WIDTH
5007	30	LF	24" HEAT APPLIED WHIT OR YELLOW PERM PVMT LINE MARKINGS
8018	1	EA	MAST ARM POLE & 50 FT MAST ARM ANY "T" DIMENSION
8021	1	EA	REMOVE AND DISPOSE MATERIAL AND EQUIPMENT - PER ASSIGNMENT
8025	4	EA	VIDEO DETECTION CAMERA & CABLE UP TO 500 FT
8034	20	LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8035	16	LF	WOOD SIGN SUPPORTS UP TO 4 X 6
8036	48	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8038	20	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8039	30	LF	1 INCH ELECTRICAL CONDUIT - GALVANIZED RISER
8042	1	EA	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
8045	1	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8046	1	EA	DISCRIMATOR MODULE, 4 CHANNEL
8048	1	EA	OPTICOM NO. 721 DETECTOR EYE
8050	22	EA	12" LED VEHICULAR SIGNAL HEAD SECTION
8051	50	LF	FURNISH AND INSTALL 4 CONDUCTOR OPTICOM CABLE
8056	100	LF	ELECTRICAL CABLE - 5 CONDUCTOR NO 14 AWG
8057	310	LF	ELECTRICAL CABLE - 7 CONDUCTOR NO 14 AWG
8064	1	EA	INSTALL CONTROLLER AND CABINET - POLE MOUNT

C. SHA FORCES SHALL REMOVE THE CONTROLLER AND AUXILLARY EQUIPMENT FROM THE CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

**CENTURY**  
ENGINEERING  
CONSULTING ENGINEERS - PLANNERS  
10710 GILROY ROAD  
HUNT VALLEY, MD 21031

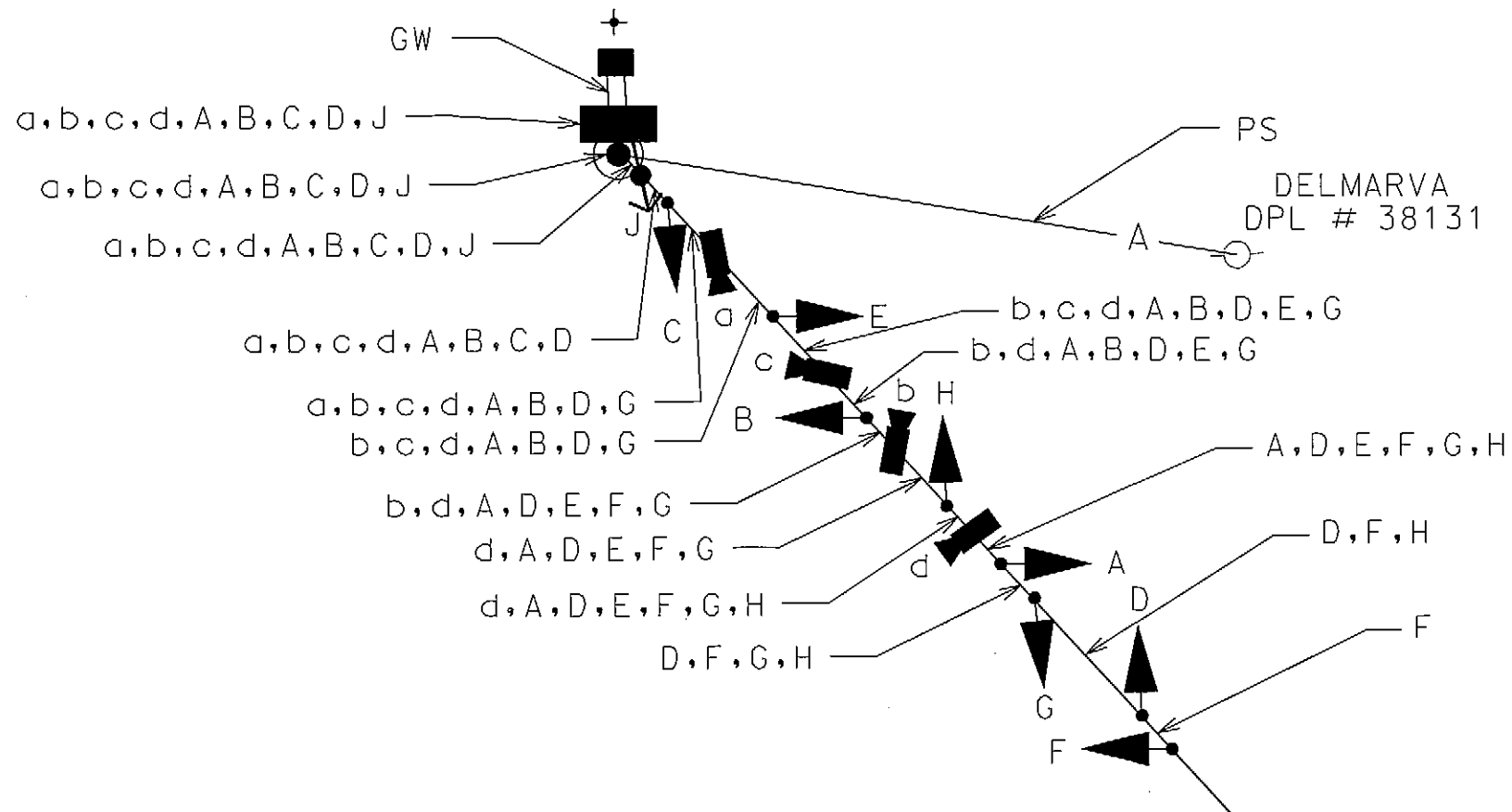
**T3**  
design

T3 DESIGN, P.C.  
3927 OLD LEE HWY  
SUITE 101-C  
FAIRFAX, VA 22030  
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PHASE CHART

	1	2	3	4	5	6	7	8
	R V G	R V G	R V G	R V G	R V G	R V G	R V G	R V G
PHASE 2 AND 6	G	G	G	G	R	R	DK R	DK R
2 AND 6 CHANGE	Y	Y	Y	Y	R	R	DK R	DK R
PHASE 4 AND 8	R	R	R	R	G	G	DK FLR	DK FLR
4 AND 8 CHANGE	R	R	R	R	Y	Y	DK FLR	DK FLR
PRE-EMPTION	R	R	R	R	G	G	R R	R R
PRE-EMPTION CHANGE	R	R	R	R	Y	Y	R R	R R
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLR	FLR	FLR DK	FLR DK

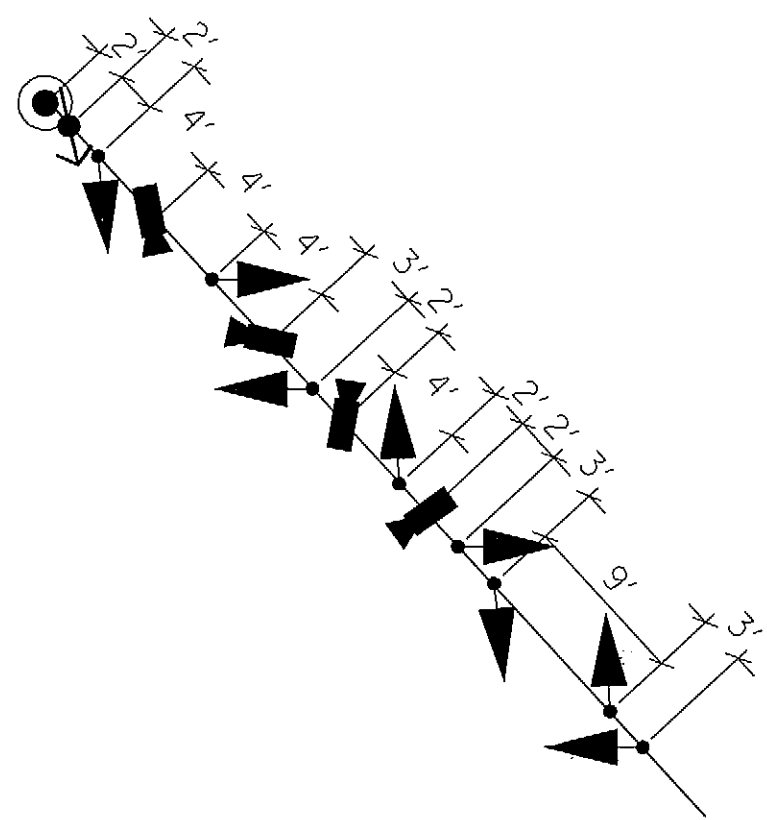
WIRING DIAGRAM



WIRING KEY

- a, b, c, d } VIDEO DETECTION CAMERA LEAD-IN CABLE
- A, B, C, D } 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- E, F, G, H } 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
- J } 4 CONDUCTOR OPTICOM CABLE
- GW } 1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
- PS } AERIAL POWER SOURCE
- + } GROUND ROD

POLE DIMENSION DIAGRAM



TOD NO:XX443-16  
SHA NO:CO413A51/B51  
MD 331@MD 324/MESSICK AVE

**SHA**

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

**MD 331 (MAIN STREET)  
AT MAPLE AVE / MESSICK AVE**

PRESTON, MARYLAND

GENERAL INFORMATION SHEET

SCALE 1"=20' DATE 12/11/09 CONTRACT NO. XX4435185

DESIGNED BY S. WILKENING COUNTY CAROLINE

DRAWN BY D. SCHEEL LOGMILE 17029003.69

CHECKED BY A. MORRIS T.I.M.S. NO. 1936

F.A.P. NO. TOD NO.

TS NO. TS-4003 GI DRAWING NO. OF SHEET NO. 2 OF 2